

(d) Remarks:

This application has been reviewed in light of the Office Action dated July 23, 2009. Claims 12-21 are presented for examination, with claim 12 being in independent form. Claim 12 defines still more clearly what Applicants regard as their invention. Support for claim 12 may be found in general formula (2) at pages 13-14 of the subject specification as filed. Claims 13-21 correspond to former claims 3-11. Applicants submit that no new matter has been added. Favorable consideration is requested.

The Examiner has indicated that one of the references cited on an Information Disclosure Statement filed on January 10, 2008 was not considered. Applicants submit herewith an Information Disclosure Statement resubmitting this reference for consideration.

The Abstract was deemed objectionable due to its length and because the chemical structure of group B was deemed illegible. The Abstract has been carefully reviewed, shortened and amended as to matters of form with special attention to the points raised by the Examiner.

Claims 1-11 were rejected under 35 U.S.C. § 112, second paragraph, as indefinite.

The claims have been carefully reviewed and amended as deemed necessary to ensure that they conform fully to the requirements of Section 112, second paragraph, with special attention to the points raised in the Office Action. Specifically, claim 12 has been amended herein to delete the passage identified by the Examiner as unclear, i.e., "each CH on the benzene ring . . . may independently be replaced by a nitrogen atom." It is believed that the rejection under Section 112, second paragraph, has been obviated, and its withdrawal is therefore respectfully requested.

Claims 1-7 and 9-11 were rejected under 35 U.S.C. § 102(b) as being anticipated by Kamatani (US 2003/0189216). Relying on structure EH-B at page 9, the

Examiner alleges that Kamatani discloses all of the features of the claimed invention. Applicants respectfully traverse the rejection.

Before addressing the grounds of rejection, Applicants wish to briefly review certain important features and advantages of the presently claimed invention. The present invention discloses a compound represented by the general formula (I), as recited in claim 1, wherein x, y and z are each independently an integer of 0 to 3 such that the relation of $x + z \geq 1$ is satisfied; R₃, R₈, R₁₅, R₁₆, R₁₇, and R₁₈ are each independently a hydrogen atom or a linear or branched alkyl group; R₁, R₂, R₄, R₅, R₆, R₇, R₉, and R₁₀ are each independently a hydrogen atom, a linear or branched alkyl group, or a substituted or unsubstituted aryl group with at least one of R₁, R₂, R₄, R₅, R₆, R₇, R₉, and R₁₀ being a substituted or unsubstituted aryl group; and R₁₁, R₁₂, R₁₃, and R₁₄ are each independently a hydrogen atom, a linear or branched alkyl group, or a substituted or unsubstituted aryl group. An EL device of the present invention is able to achieve high efficiency optical output and a high luminescence with high durability.

The presence of at least one aryl group in the R₁, R₂, R₄, R₅, R₆, R₇, R₉, or R₁₀ positions of the terminal phenyl rings of the fluorenyl skeleton imparts unexpected benefits. Comparative Example 2, DB3FL, which has unsubstituted terminal phenyl groups, was compared to X-25, which has phenyl substituents on the terminal phenyl groups. The results in Tables 1 and 2 and the discussions thereon in pages 64 and 73 of the subject specification shows the unexpected benefit of such substitution. Further, Comparative Example 2, DB3FL, was compared to X-23 and X-24, each having terminal phenyl groups substituted with an aryl. Again, from Table 2 and the discussion following the table at page 73, it is clear that compounds having a substituted terminal phenyl group exhibit unexpectedly superior properties, i.e., they have larger temperature differentials, slower crystallization times, and form an amorphous state more stable than Comparative Example 2. Simply, the compounds of the presently claims invention are advantageous to

formation of an amorphous film. Such unexpected beneficial properties serve to rebut any presumption that it would have been obvious to substitute a terminal phenyl group of a fluorenyl skeleton with an aryl group.

Kamatani discloses an organic light emitting device having high light emitting efficiency and a long light emission lifetime. However, Kamatani fails to disclose the compound of general formula (1) of the presently claimed invention. The Examiner alleged that Kamatani anticipated the invention where A in general formula (1) of original claim 1 is a hydrogen atom. As amended herein, A has been deleted from general formula (1) of claim 1 and replaced with a terminal phenyl group. Kamatani fails to teach general formula (1) as amended herein having two terminal phenyl groups at the ends of a fluorenyl skeleton. In addition to Kamatani failing to teach such a compound having terminal phenyl groups, it fails to disclose or suggest the beneficial properties resulting from having an aryl substituted terminal phenyl group, as demonstrated in Tables 1 and 2 and pages 64 and 73 of the subject specification. Therefore, Kamatani does not anticipate or render the presently claimed invention obvious. Accordingly, Applicants respectfully request withdrawal of the 102 rejection.

Claims 1-5 were rejected under 35 U.S.C. § 102(b) as being anticipated by Suzuki (JP 2004-107326, and corresponding English application U.S. 2005/02536974). The Examiner alleges that Suzuki discloses all of the features of the claimed invention. Applicants respectfully traverse the rejection.

Like Kamatani, Suzuki is cited by the Examiner for disclosing a compound of general formula (1) of original claim 1 where A is a hydrogen. As amended herein, general formula (1) no longer includes this feature and instead now recites a structure having terminal phenyl groups at both ends of the fluorenyl skeleton. There is simply no disclosure or suggestion of a compound having two terminal phenyl groups in Suzuki. In addition to failing to teach a compound having terminal phenyl groups, Suzuki fails to

disclose or suggest the benefits of having a of a fluorenyl skeleton with terminal phenyl groups with at least one aryl substituent. Therefore, Suzuki fails to anticipate or render the presently claimed invention obvious. Applicants respectfully request withdrawal of the 102 rejection.

Claim 8 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Kamatani in view of Fukuda (U.S. Patent Application Publication No. 2004/0110031) and over Suzuki in view of Kamatani and further in view of Fukuda. Claims 6, 7 and 9-11 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Suzuki in view of Kamatani. Applicants respectfully traverse the rejections.

As provided above, Kamatani and Suzuki fail to teach or disclose the presently claimed invention wherein a compound of general formula (1) has terminal phenyl groups with at least one aryl group substituent. Further, as shown in Tables 1 and 2 of the subject specification, the properties imparted by this structural limitation are unexpectedly superior to those of compounds that did not have the substitution. Therefore, neither Kamatani nor Suzuki render the presently claimed invention obvious.

Fukuda fails to remedy the deficiencies of Kamatani and Suzuki. Fukuda is cited by the Examiner for teaching an EL device containing both a host and a dopant of a phosphorescent material. Even if, *arguendo*, this were taken as true, any combination of these references still fails to disclose or suggest all of the limitations of the presently claimed invention. There is simply no disclosure or suggestion of a compound of general formula (1) of the presently claimed invention. Further, none of the references appreciate the benefits imparted by having an aryl substituent on at least one of the terminal phenyl rings of the fluorenyl skeleton. Therefore, Applicants respectfully submit that neither Kamatani, Fukuda or Suzuki, whether considered separately or in any permissible combination, render the present invention obvious and request withdrawal of the 103 rejection.

Claims 1-10 were provisionally rejected under the judicially-created doctrine of obviousness-type double patenting, as being unpatentable over claims 1 and 3-8 of copending Igawa (US 2007/0232841). The amendments to the claims herein, along with amendments to the claims in Igawa, which will be filed with the USPTO in due course, render the claims or the present intention patentably distinct from Igawa. Therefore, Applicants respectfully request withdrawal of the obviousness-type double patenting rejection.

In view of the foregoing amendments and remarks, Applicants respectfully request favorable reconsideration and early passage to issue of the present application.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our address given below.

Respectfully submitted,

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